

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-2. (canceled)

3. (currently amended) A method for manufacturing metallic material having a chromium-oxide passivation film formed thereon, comprising the steps of:

depositing a coating material consisting of chromium by a wet plating method onto a metallic material with a surface roughness (Ra) of not more than 1.5 μ m, said coating material having a thickness of at least 100 nm;

baking said chromium-coated metallic material formed by the wet plating method at a temperature of 100 °C to 200°C in a high-purity inert gas atmosphere; and

applying a heat treatment to said chromium-coated metallic material in an oxidizing atmosphere so as to form a chromium-oxide passivation film on said metallic material, said film having a depth and an outermost surface, ~~said film consisting of Cr₂O₃ at a depth approximately 30nm from the outermost surface,~~ and said film providing resistance to highly degradable and corrosive gases.

4. (canceled)

5. (previously presented) The method according to claim 3, wherein said oxidizing atmosphere comprises oxygen diluted by an inert gas.

6. (previously presented) The method according to claim 3, wherein the highly degradable and corrosive gases are silane, diborane, or phosphine.

7. (new) A method for manufacturing metallic material having a chromium-oxide passivation film formed thereon, comprising the steps of:

depositing a coating material consisting of chromium by a wet plating method onto a metallic material with a surface roughness (Ra) of not more than 1.5 μ m to form a chromium coat film having an outermost surface and a depth comprising a distance of 100 nm from said outermost surface;

baking said chromium coat film formed on said metallic material at a temperature of 100°C to 200°C in a high-purity inert gas atmosphere; and

applying a heat treatment to said chromium coat film formed on said metallic material in an oxidizing atmosphere so that a chromium-oxide passivation film from said outermost surface of said chromium coat film to a distance in said depth, said chromium-oxide passivation film providing resistance to highly degradable and corrosive gases wherein,

said chromium-oxide passivation film consists of an element concentration of oxygen and an element concentration of chromium,

said element concentration of oxygen is greater than said element concentration of chromium from said outermost surface to a distance of approximately 30nm in said depth, and

said element concentration of oxygen is less than said element concentration of chromium at a distance of 100 nm in said depth.